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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,531	09/01/2005	Reinhard Meier	DE02 0189 US	6284
65913	7590	11/30/2007	EXAMINER	
NXP, B.V.			RICE, ELISA M	
NXP INTELLECTUAL PROPERTY DEPARTMENT				
M/S41-SJ			ART UNIT	PAPER NUMBER
1109 MCKAY DRIVE			2624	
SAN JOSE, CA 95131				
			NOTIFICATION DATE	DELIVERY MODE
			11/30/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ip.department.us@nxp.com

Office Action Summary

Application No.

10/524,531

Applicant(s)

MEIER, REINHARD

Examiner

Elisa M. Rice

Art Unit

2624

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 10 February 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 2/10/2005
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the subject matter of claim 7 should be illustrated clearly. No new matter should be entered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 1 and 2 are rejected under 35 U.S.C. 102(e) as being anticipated by Yau et al. (US 6,876,757 B2).

Art Unit: 2624

Regarding claim 1, Yau discloses a method of encoding lines in a print from the skin, and particularly a fingerprint, characterized in that one line at a time is encoded by means of vertices, which include the starting point and the end point, that are situated on the line, such that connecting line segments between adjacent vertices are no more than a given distance away from the line (Yau, column 5, line 58-column 6, line 8)

Regarding claim 2, Yau discloses a method as claimed in claim 1, characterized in that, after the starting point and the end point have been determined, a search is made for that point on the line that is the maximum distance away from a connecting line between the starting point and the end point, the point that is the maximum distance away is stored as a first vertex, a search is made, between the first vertex and the starting point and the end point, for other points that are the maximum distance away from their associated connecting line segment, the points that are found constitute a second and a third vertex, between which and the starting point, the end point, and the first vertex a search is made for further points each at the maximum distance, which further points form further vertices, and a search of this kind is continued until such time as no point is found that is at a distance greater than said given distance (Yau, column 5, line 58-column 6, line 8)

Art Unit: 2624

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al. (US 6,876,757 B2).

Regarding claim 3, while Yau discloses a method as claimed in claim 1, Yau does not disclose a method characterized in that said given distance is less than a third of the distance between the lines. It would have been obvious to one of ordinary skill in the art to modify the minutia extraction algorithm of Yau wherein the given distance is less than a third of the distance between the lines because the values of the tolerances are somewhat arbitrary and empirical studies could easily give rise to some optimal value for the given distance.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al. (US 6,876,757 B2) and Fuji et al. (US 6,233,348 B1).

Regarding claim 4, while Yau discloses a method as claimed in claim 1, Yau does not disclose a method characterized in that branching lines are split apart at the branching.

Art Unit: 2624

Fuji discloses a method characterized in that branching lines are split apart at the branching ("when two parallel ridges adhere in the middle and thereby a ridge bifurcation takes place, the ridge bifurcations are treated as two parallel ridges that have adhered in the image sampling process. In this case, the ridges that have adhered are separated and thereby the ridge bifurcation is removed".)

It would have been obvious to one of ordinary skill in the art to modify the minutiae extraction algorithm of Yau to include a method characterized in that branching lines are split apart at the branching as taught by Fuji because since the extracted feature points generally contain incorrect feature points, these incorrect feature points are removed (at step S195) after "the positions of the feature points of the fingerprint are located and extracted on the thin line image of a fingerprint (at step S194)" (Fuji, BSTX 14).

Additionally, Fuji states in BSTX 49 the following: "Thus, even if a ridge adheres due to an improper pressure of a finger to the fingerprint sensor and thereby a ridge ending is mistakenly detected as a ridge bifurcation, the original ridge structure can be restored and a fingerprint can be identified. Consequently, the fingerprint can be stably identified."

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al. (US 6,876,757 B2) and Prokoski (US 6,173,068 B1).

Regarding claim 5, while Yau discloses a method as claimed in claim 1, Yau does not disclose a method characterized in that closed lines are broken open.

Art Unit: 2624

Prokoski discloses a method characterized in that closed lines are broken open ("Minutiae generator 104 selects minutiae from the facial thermogram 200 after preprocessing as described above by first positioning a circle of radius R on a thermal contour such that the contour intersects the circle, crossing it at two points and dividing it with equal area in each half", Prokoski, paragraph 36 of Detailed Description).

It would have been obvious to one of ordinary skill in the art to modify the minutiae extraction algorithm of Yau to include a method characterized in that closed lines are broken open as taught by Prokoski in order to aid in finding minutiae points ("minutiae generator", Prokoski, paragraph 36 of Detailed Description).

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yau et al. (US 6,876,757 B2).

Regarding claim 6, while Yau discloses a method as claimed in claim 1, Yau does not explicitly disclose a method characterized in that, in determining a distance from a connecting line segment, the perpendicular from the given point to the straight line containing the connecting line segment is calculated.

Art Unit: 2624

It would have been obvious to one of ordinary skill in the art to modify the minutiae extraction algorithm of Yau to utilize the perpendicular to determine a distance from a connecting line segment because it would be one of the most logical approaches from a geometry perspective to measure the perpendicular to the line because this provides the shortest distance from any point on a curve to the line segment.

Allowable Subject Matter

Claim 7 is objected to as being dependent upon rejected base claims, but would be allowable if rewritten in independent form including all of the limitation of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elisa M. Rice whose telephone number is (571)270-1582. The examiner can normally be reached on 8:00a.m.-5:30p.m. EST Monday thru Friday.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian P. Werner can be reached on (571)272-7401. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2624

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Elisa Rice *ER*
Patent Examiner
2624

EMR


BRIAN WERNER
SUPERVISORY PATENT EXAMINER